**STATE OF HAWAII**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**OFFICE OF CONSERVATION AND COASTAL LANDS**
**Honolulu, Hawaii**

180-Day Exp. Date (extended): October 22, 2010

August 12, 2010

**Board of Land and**
**Natural Resources**
**State of Hawaii**
**Honolulu, Hawaii**

**REGARDING:** **Conservation District Use Application MA-3533**
**Wind Energy Generation Facility**

**APPLICANT:** Kaheawa Wind Power II LLC, c/o First Wind Energy, 810 Richards Street, Suite 650, Honolulu, HI 96813-4714

**AGENT:** Perry White, Planning Solutions, Inc., 210 Ward Avenue, Suite 330, Honolulu, HI 96814-1042

**LANDOWNER:** Department of Land and Natural Resources, State of Hawai`i

**LOCATION:** Kaheawa Pastures, Ukumehame Ahupua`a, Lahaina District, Maui

**TMK:** (2) 4-8-001:001 & 3-6-001:014

**AREA OF USE:** 333 acres

**SUBZONE:** General

**DESCRIPTION OF AREA AND CURRENT USE**

The project area is on a dry ridge above Mā`alaea, in the Lahaina District of Maui. The site is in the General Subzone of the State Land Use Conservation District. **Exhibit 1** shows the projects location and the subzone boundaries.

The main part of the project will occupy an approximately 1.5-mile long stretch directly off of the state-owned Kaheawa Pasture Access Road, on TMK 3-6-001:014, as shown on **Exhibit 2, Vicinity Map**. This area is a moderately-slopped dry and windy ridge bounded on either side by steep and irregular gullies. Associated infrastructure will be placed on TMK 4-8-001:001 near existing support facilities for the Kaheawa I Generation Facility

Access is off of Honoapi`ilani Highway at McGregor Point.

Cultural, historical, and recreation sites in the area include a heiau, the Lahaina Pali trail, and the Mā`alaea branch of the Lahaina Pali trail. Construction and operation of the facility should not have a physical impact on any of these. **Exhibit 3, Archaeological Sites** shows known features. An archaeologist will be on site during construction. The developer also proposes to establish a *Kupa `Āina Council* as an advisory group to the project.

The site was once a *kula manu*, or gathering place for birds prior to mass movements to other parts of Maui and Kaho`olawe. Recent studies have concluded that such mass migrations no longer occur, although some species continue to use the resources in the area. The applicant is working on a Habitat Conservation Plan for four endemic species: the `a`o (*Puffinus newelli*, or Newell's shearwater), `ua`u (*Pterodroma sandwichensis*, or Hawaiian petrel), nēnē (*Branta sandvicensis*), and `Ōpe`ape`a (*Lasiurus cinereus semotus*, or Hawaiian hoary bat).

A botanical survey identified 69 species, of which 15 were endemic or indigenous. No federally-listed threatened or endangered species were found. The dominant species was buffelgrass (*Cenchrus ciliaris*), which proliferated after the fires of 1999.

## PROPOSED USE

Kaheawa Wind Power II is proposing to establish a 21 megawatt (MW) wind power generating facility along the access road leading to the existing 30 MW Kaheawa Wind Power I (KWP I) facility. **Exhibit 4, Aerial Photo** shows the project area. Power from the wind turbines would be conveyed to a new substation to be constructed adjacent to an existing electrical transmission corridor. Like KWP I, KWP II will supply electricity to Maui Electric Company (MECO) Ltd.

The project calls for:

- The installation of fourteen 1.5 MW wind turbine generators (WTGs) on the broad interfluvial land between Manawainui and Malalowaiaole gulches. A 215' conical tower will support each unit; the towers will have a fifteen-foot diameter at the base and taper to a ten-foot diameter at the top. The three-bladed rotor on each turbine will have a diameter of 230 feet, reach 327 feet at the top of the arc, and will rotate between 10 and 21 revolutions per minute. A nacelle atop each tower will house a gear box, generator, shafts, and other associated equipment. The nacelle will measure 12 feet by 12 feet by 27 feet. Each unit will rest on a 46 square-foot pad that will extend approximately ten feet below grade, on average.

  **Exhibit 5** shows a photo of a 1.5 MW turbine, while **Exhibits 6 and 7** show simulated views of the line from Mā`alaea and Wailea.

- The realignment of the existing access road, and the construction of a service road to connect KWP II to the main access road. The new and realigned roads will have a 36 foot wide travelway, although only the middle sixteen to twenty feet will be graveled. The remainder will be earthen shoulder. Adjacent cut and fill areas will be reseeded with rye grass.

- The renovation of the existing KWP I Operations & Maintenance (O&M) building by adding a bathroom, expanding the office area, and reducing the shop. This building will accommodate both KWP I and II.

- Construction of a new maintenance shop adjacent to the O&M building, and in the same lease area, to be shared by both facilities. The new 80-foot by 60-foot building will have two maintenance bays, shop facilities, and storage areas.

- The construction of a new electrical substation, and connecting this to the existing MECO power transmission lines that pass over the substation site using a short overhead cable. **Exhibits 8 and 9** show the **Plans View** and **Elevation View** of the Electrical Substation.

- The construction of a Battery Energy Storage System (BESS) to be housed in an enclosure adjacent to the proposed substation. The BESS Compound is shown in **Exhibits 10 and 11**.

- The construction of a permanent unguyed meteorological tower and one guyed temporary 65-meter test tower prior to construction of the WTGs. The temporary test tower will be removed within 3 months of completing construction.

- The installation of an underground fiber optic network and electrical collection system connecting the KWP II turbines, substation, BESS, meteorological tower, KWP I communications tower, and the KWP I O&M building. The electrical collection system will include an overhead span across Manawainui Gulch, adjacent and parallel to an existing MECO line.

**Exhibit 12, Preliminary Site Layout** contains an overview of all the proposed infrastructure.

A construction lay-down area of approximately 150 feet by 250 feet will be located in the southern portion of the KWP II site. It will be re-vegetated when construction is finished.

The proposal calls for the lease of 135 acres of State Owned land within parcel 3-6-001:014 and 8 acres within parcel 4-8-001:001. The turbines will be located entirely on parcel 3-6-001:014. The project will also need to obtain easement rights for access and use of the existing entrance and state-owned access road. These will be negotiated with DLNR's Land Division if a Conservation District Use Permit (CDUP) and other environmental permits are issued.

The expected life span of the facility is 20 years, after which time the owner will either extend the lease or remove the facilities. Staff notes that there is no detailed decommissioning plan for the facility.

## SUMMARY OF COMMENTS

The application was referred to the following agencies for their review and comment - *Office of Hawaiian Affairs; Maui County – Planning Department; Department of Fire Control; DLNR – Land Division, Historic Preservation, DOBOR, DOFAW, Forestry, Engineering; DBEDT – Energy, Resources, & Technology Division; Planning Office; Department of Health; UH Environmental Center; and the US Fish and Wildlife Service Hawaii State Library; Wailuku and Kahalui Public Libraries*

In addition, the CDUA and supporting Environmental Documents were available for review at the Hawai`i State Library and the Wailuku and Kahului Public Libraries.

Comments were received by the following and summarized by Staff as follows:

COUNTY OF MAUI, DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
No Comments

COUNTY OF MAUI, DEPARTMENT OF PLANNING

- The Department would like the figures which show simulated views to be taken from the same vantage point.
- As the towers will be taller than those from Kaheawa I, the Department would like to know the possibility of painting them brown or green to match the hillside.
- The Department agrees that the new preferred alternative will provide fewer impacts to the land because of less grading and less potential take of nēnē.

*Applicant's Response*

- *The applicant has revised the figures per the Department's request*
- *The applicant will paint the buildings and the BESS compound in earth tones. The towers need to be white per FAA regulations regarding visibility.*
- *The applicant is pleased that staff agree that the chosen alternative will have fewer impacts.*

STATE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT, & TOURISM
The Hawai`i State Energy Office finds the ecological safeguards built into the project satisfactory, and supports the proposal

DLNR COMMISSION ON WATER RESOURCE MANAGEMENT
Disturbance of ground cover could impact groundwater recharge; the applicant should consider this in their revegetation plans.

*Applicant's Response*
*Best Management Practices for stormwater are integrated into the plan as described in §4.4.3 of the EIS.*

DIVISION OF AQUATIC RESOURCES
No Comments

DEPARTMENT OF TRANSPORTATION
The Department offers the following comments:

- The impact on the highway during construction must be mitigated
- A permit for the transport of oversized and overweight equipment is required. As part of the process, the applicant must develop a traffic control plan to the satisfaction of the DOT Maui District Engineer.
- Any damage to the highway must be reported to the Maui District Engineer immediately, and repairs must be done at no cost to the state.
- The applicant must develop a maintenance and monitoring program that is approved by the Maui District Engineer.
- The applicant must acquire a permit for any work done in the right-of-way.
- DOT notes that the applicant has filed a Notice of Intent with the Federal Aviation Administration (FAA). The FAA issued a Notice of Presumed Hazard for each of the turbines because they exceeded obstruction standards. A public comment period on the airspace study was closed in January 2010; DOT cannot concur with the project until the results of that study and a favorable determination is issued.

*Applicant's Response*

- *The EIS §4.13.1.1.3 discusses mitigation measures during construction. These include*
  - *Using a police escort when transporting large WTG pieces,*
  - *Using two employees to man the Access Road entrance during work hours,*
  - *Using radio communication to facilitate traffic control on-site, and*
  - *Providing appropriate turn-out areas along the access road.*
- *KWP II understands that the contractors will need to secure this permit, and will make this a requirement of the construction contract.*
- *The applicant will immediately report any damage to the highway, and understands that repairs must be undertaken at no cost to the state.*
- *KWP II will prepare a maintenance and monitoring program dsigned to prevent materials and or debris from impacting state highways, and will coordinate this program with the Maui District Engineer for the duration of the wind farm operations.*
- *KWP II is not planning on conducting any work in the State right-of-way.*
- *The FAA issued a Determination of No Hazard to Air Navigation to each of the towers on January 20, 2010.*

OFFICE OF HAWAIIAN AFFAIRS (OHA)

- OHA requests being contacted in addition to the State Historic Preservation Division should it be necessary to impact one of the Site 5648's features.

- OHA notes that the Cultural Impact Assessment (CIA) showed that cultural practitioners preferred the more makai alternative as it is further from the *kula manu* and *wao akua*.
- OHA also concurs with the following recommendations from the CIA:
  - That the wind farm does not expand mauka;
  - That Kaheawa II continues and expands upon their existing outreach programs; and
  - That Kaheawa II work with cultural practitioners and genealogical descendants to establish a *Kupa ʻĀina* Council as an advisory group on outreach and cultural affairs.
- In addition, OHA seeks assurance that, should cultural artifacts, historic remains, or human remains be discovered, they should be treated in accordance with HAR §13-280, §13-300-40, and HRS Chapter 6E
- The parcels are ceded lands, held in Corpus by the State. OHA is entitled to a portion of the proceeds and revenues generated on these lands.

*Applicant's Response*

- *The applicant will contact OHA if it becomes necessary to impact one of the Site 5648's features.*
- *All cultural, historic, and human remains will be treated in accordance with the applicable rules and regulations.*
- *The applicant recognizes that the lands they are seeking a lease for are ceded lands that are held in trust for the Native Hawaiians and the general public.*

UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE

- The Service recommends that a condition of the permit be that an approved Habitat Conservation Plan and associated Federal Incidental Take Permit and State Incidental Take License be obtained prior to undertaking any construction activities.
- The Service would like to review a copy of the Wild Land Fire Contingency Plan.
- The Service acknowledges the efforts of Kaheawa to control fireweed, but would like a condition of the permit be that the applicant develop an approved plan for handling invasive species prior to the start of construction activities.
- The Service recommends that a goal of the Revegetation Plan be to "achieve a net benefit" for native vegetation and the environment at Kaheawa Pastures. The Service disagrees with the use of annual rye for soil stabilization, and disagrees with the applicants conclusion that native plant restoration would not be a priority due to the disturbed nature of the site.
- In addition to inspection, treatment, and monitoring of all materials and equipment that enter the site, the Service recommends that revegetation efforts minimize the potential for the establishment and dispersal of non-native species.

*Applicant's Response*

- *The applicant will not initiate construction activities until it has obtained both a Federal Incidental Take Permit and State Incidental Take License.*

- *The applicant has provided a copy of the Fire Contingency Plan; it is understood that it is being used as part of the review of the Habitat Conservation Plan.*
- *The applicant has incorporated the recommendations regarding invasive species as part of the Best Management Plan. Specific modifications include:*
    - *Requiring contractor vehicles to do a complete wash-down prior to delivery of materials,*
    - *Monitoring areas impacted by construction every six months for the first two years,*
    - *Consulting with DLNR, as landowner, immediately upon the discovery of any new invasive species,*
    - *Monitoring hydroseeded areas during the 90-day establishment period*
- *KWP II proposed to reintroduce a minimum of 5000 native plants over several years as part of the long term goal of establishing viable communities. KWP II will use native plants when possible as part of the revegetation plan, alongside other goals such as minimizing erosion and runoff.*

**ANALYSIS**

As the project area requires the lease of State Land, OCCL consulted with DLNR's Commission on Water Resource Management Division of Aquatic Resources Division of Forestry and Wildlife, Historic Preservation Division, and Land Division prior to accepting the application for processing. The Divisions notified our office that they had no objections. On January 27, 2010 the DLNR Chair, representing the State as landowner, then signed the application so that is could be accepted for processing. Her decision as landowner to sign the application does not constitute an endorsement or approval.

OCCL notified the applicant on February 11, 2010 that:

1. The proposed use was an identified land use in the Resource subzone of the Conservation District, pursuant to Hawai`i Administrative Rules (HAR) §13-5-22, P-6, PUBLIC PURPOSE USES, (D-2) *Transportation systems, transmission facilities for public utilities, water systems, energy generation facilities utilizing the renewable resources of the area (e.g. hydroelectric or wind farms) and communications systems and other such land uses which are undertaken by non-governmental entities which benefit the public and are consistent with the purposes of the conservation district.* The final authority to grant or deny the permit rests with the Board of Land and Natural Resources (BLNR).

2. Pursuant to HAR §13-5-40, a Public Hearing was required. The Public Hearing was held at Ma`alaea, Maui on February 17, 2010. The Hearing was noted in the paper of record. Staff opened the Hearing, but no one from the public attended.

3. Pursuant to HAR §13-5-31 *Permit applications,* the permit required an Environmental Impact Statement (EIS). DLNR was the accepting authority for the EIS. The Chair signed the Acceptance Report for the Final EIS on May 17, 2010.

Notice of CDUA MA-3533 was published in the February 11, 2010 issue of the *Environmental Notice.*

## EIS PUBLICATION HISTORY

The EIS Preparation Notice was published in the *Environmental Notice* on February 8, 2008.

Comments from the preparation period were collected and incorporated into the Draft EIS. This was published in the *Environmental Notice* on February 23, 2009. The 45-day public comment period ran until April 23, 2009.

The February 2009 Draft EIS focused on an area termed the *Downwind Siting Option.* Other areas had been eliminated as infeasible. As more meteorological data became available during the review process it became apparent that a second option, the *Downroad Siting Option*, was a potentially superior wind resource. This second site could be developed at lower cost, and had a potentially reduced environmental impact. KWP II LLC determined that this arrangement was the new preferred alternative, and prepared a Revised Draft EIS reflecting this.

The Revised Draft EIS, which essentially eliminated the downwind siting option and replaced it with the new siting option along the main access road, was published in the *Environmental Notice* on December 8, 2009.

Conservation District Use Application (CDUA) MA-3533 was accepted for processing on January 25, 2010. A public hearing on the application was held at Ma`alaea, Wailuku, Maui on March 9, 2010.

The Final EIS for the project was submitted to OCCL on April 29, 2010. The Final EIS incorporated comments received during the review process. The Final EIS also contained the following additional details:

- The "lower corridor" was selected for the overhead electrical collection line;
- The wastewaster disposal and water supply systems are discussed in more detail, including plans for a 60,000-gallon tank;
- The Site Plan was amended to include the above elements;
- The renovation of the existing KWP I Operations & Maintenance Building for shared use by both KWP I and KWP II.
- Additional information was included on terrestrial flora based upon an additional 2010 survey; and
- The Hawaiian hoary bat detection rate was revised to reflect a count of 0.009 passes per detector night (i.e. 30 bat 'passes' out of 3351 detector-nights).

The Final EIS contains discussions on the following potential areas of impact:

- Geology, Topography, and Soils (4-1)

- Weather and Climate (4-4)
- Air Quality (4-7)
- Hydrology and Water Resources (4-10)
- Natural Hazards (4-11)
- Terrestrial Flora (4-14)
- Terrestrial and Avian Fauna (4-18)
- Noise (4-50)
- Archaeological, Historical, and Cultural Resources (4-59)
- Land Use and Socioeconomic Effects (4-63)
- Scenic and Aesthetic Resources (4-66)
- Hazardous Materials (4-80)
- Public Infrastructure and Services (4-84)

The Chair of the Board of Land and Natural Resources signed the Acceptance Report for the Final EIS on May 17, 2010.

## CONSERVATION CRITERIA

The following discussion evaluates the merits of the proposed land use by applying the criteria established in HAR §13-5-30.

1. *The proposed land use is consistent with the purpose of the Conservation District.*

   The objective of the Conservation District is to conserve, protect and preserve the important natural resources of the State through appropriate management and use to promote their long-term sustainability and the public health, safety, and welfare.

   These objectives apply to the individual parcels that are zoned Conservation as well as to the overall natural resources of the state. In the case of wind power and other renewable energy facilities, the Department needs to evaluate the potential localized impacts of a proposal versus the potential regional or state-wide benefits.

   The state's current dependence on carbon fuels is not sustainable, and places the state's resources at risk both in the short term (e.g. through the risk of an oil spill) and long term (e.g. through the accumulated pollutants that enter the ground, water, and atmosphere through the burning of fossil fuels).

   Wind energy generation facilities, when properly managed, have been shown to be an effective way of reducing our dependence on fossil fuels. These facilities are considered an identified land use in the subject area of the Conservation District; as such, it is subject to the regulatory process established in Chapter 183C, HRS and detailed further in Chapter 13-5, HAR. This process provides for the application of appropriate management tools to protect the relevant resources,

including objective analysis and thoughtful decision-making by the Department and Board of Land and Natural Resources.

Staff believes the proposal is consistent with the purpose of the Conservation District as the proposal is a positive move towards energy self-sufficiency, and contributes to the sustained use of island resources overall.

2. *The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.*

The objective of the Resource subzone is to develop, with proper management, areas to ensure sustained use of the natural resources of those areas.

The proposed use is an identified land use in the Resource subzone of the Conservation District, pursuant to HAR §13-5-22, P-6 PUBLIC PURPOSE USES.

There were no culturally or environmentally sensitive sites associated with the immediate project area – most of the important sites are located mauka of the preferred siting alternative.

Staff believes that a wind power facility has stringent management criteria designed to minimize any potential impact on the immediate area's natural resources. Much of the infrastructure will be co-located with those of the existing wind farm at Kaheawa; as a result the potential impact will be less than if the facility were sited in an entirely new area.

As the south slopes of the West Maui mountains contain some of the best wind resources in the state, there is likely to be the risk of accumulated impacts to the area's resources if more proposals come in to develop facilities in this area.

3. *The proposed land use complies with provisions and guidelines contained in Chapter 205, HRS, entitled* Coastal Zone Management, *where applicable.*

The proposed project is not near the shoreline. Erosion from the site has the potential to increase the level of sedimentation in the Bay below the site, and Best Management Practices will need to be followed in order to reduce the risk of runoff.

4. *The proposed land use will not cause substantial adverse impacts to existing natural resources within the surrounding area, community, or region.*

The most significant immediate impact from the project will occur during construction. The applicant has developed a Traffic Control Plan and a Maintenance and Monitoring Program to minimize these impacts.

There are potential impacts to native bird species, particularly nene. These will be addressed in the project's Habitat Conservation Plan.

While there are not environmentally sensitive areas in the immediate project area, there is a risk that invasive species can be carried to the site. The applicant has established protocols to minimize the chance of this.

The applicant has not found a way to mitigate the project's impact on view plains.

5. *The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding area, appropriate to the physical conditions and capabilities of the specific parcel or parcels.*

The projects buildings will be painted in earth tones, minimizing their visual impact. The towers will be white, and will be visible from a distance. FAA regulations mandate that the towers be either white, lit with lights, or striped. OCCL concurs with the applicant that 'white' is the most compatible option.

6. *The existing physical and environmental aspect of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, which ever is applicable.*

The project will not alter any topographic features. No known native plant communities will be displaced. The project involves re-vegetation with over 5000 individual native plants over the next several years. There will be some impact on the visual perception of open space.

7. *Subdivision of the land will not be utilized to increase the intensity of land uses in the Conservation District.*

There will be no subdivision of land for this proposed project.

8. *The proposed land use will not be materially detrimental to the public health, safety and welfare.*

Staff believes the proposed project will not be materially detrimental to the public health, safety and welfare.

**DISCUSSION**

The proposal will establish a 21 megawatt (MW) wind power generating facility along the access road leading to the existing 30 MW Kaheawa Wind Power I (KWP I) facility. Power from the wind turbines would be conveyed to a new substation to be constructed adjacent to an existing electrical transmission corridor. Like KWP I, KWP II will supply electricity to Maui Electric Company (MECO) Ltd.

Hawai`i currently relies on oil for 90% of her power, making this the most oil-dependent state in the nation. The State's Clean Energy Initiative has set a goal of having 70% of our energy be "clean" by 2030. Wind power is a critical element of reaching that goal.

The federal Department of Energy has published a wind resource map for Hawai`i, shown in **Exhibit 13**. The map shows seven classes of wind resource potential. In general, Class 4 or higher are areas suitable for utility-scale wind production. The south slopes of the West Maui mountains are one of the three large areas in the state that are classified as "superb." The other two areas, in North Kohala, are further from population centers.

This area is thus uniquely sited for renewable energy production, and due to the prior development of a wind generation facility on the ridge, it has much of the infrastructure in place. Staff is of the opinion that this is a valid use of the area, provided that a strong management regime is in place and that the project's impacts are mitigated as well as possible.

The proposal will require a significant amount of grubbing and grading. Turbine components will be transported to the site via the existing access road, and erected utilizing several cranes, including one 300-ton capacity crane.

Best Management Practices are discussed in the Environmental Impact Statement, and reflect comments and recommendations received from State and County agencies.

Concerns were raised about the use or rye grass as a soil stabilizer during and immediately after construction. OCCL agrees with those who would prefer to see native species used in landscaping whenever possible. However, we must also balance this with the need to minimize erosion, and to reduce the chances of soil running off into the ocean. Rye grass is effective for this, and OCCL accepts that it is an appropriate short-term measure. We note that the long-term landscaping favors native species.

The Fish and Wildlife Service recommended that a condition of the permit be that an approved Habitat Conservation Plan and associated Federal Incidental Take Permit and State Incidental Take License be obtained prior to undertaking any construction activities. OCCL concurs, and the applicant has agreed follow this. **OCCL will recommend that the Board make this a condition of the permit.**

The applicant has agreed to a number of measures designed to limit take. These include placing the turbines in two single rows rather than using a staggered array or multiple rows; using monopole steel towers rather than lattice towers to reduce perching and nesting; utilizing a rotor with a rotational speed of 11 to 20 rpm to maximize rotor visibility; placing new power collection lines underground as far as practical, and fitting overhead lines with marker balls; using unguyed met towers rather than guyed met towers; and enforcing a speed limit of 10 mph on site.

The site is associated with three significant cultural resources. The red dirt of Honua`ula Ridge functions as a *koa*, or visual marker, for traditional navigators. The placement of turbines on the ridge will not obscure or impede the ridge's use as a navigational aid. Additionally, the wider area is known as a *kulamanu*, or place where birds gather prior to moving in flocks to other parts of Maui and Kaho`olawe. USFWS also recognizes this

area as a significant bird habitat. The mauka areas have also been cited as *wao akua,* or a wilderness area inhabited by spirits and gods.

The preferred alternative, downhill from KWP I, is further from the *kulamanu* and the *wao akua*. OHA and assorted cultural practitioners have requested that any future expansions not occur mauka of the existing towers. OCCL notes that any additional expansion would need to go through the review process, and will note OHA's stance if the applicant does apply for a permit to expand in the future.

OHA also requested that they be notified along with SHPD of any significant cultural or historic finds, including burials. The applicant has agreed to this. **OCCL will recommend that the Board make this a condition of the permit.**

The Highways Division expressed concern about potential impacts on Honoapi`ilani Highway, particularly during the construction phase of the project. The recommended that the applicant develop a Traffic Control Plan and a Maintenance and Monitoring Program. The applicant discussed these in the EIS; **OCCL will recommend that the Board make following these plans a condition of the permit.**

OCCL received no objections to the proposal from the community or other agencies. The applicant has addressed issues raised during the environmental review process, and has modified the project to reflect this. OCCL does not have objections of our own to the proposal. The immediate area has one of the best wind resources in the state, and can make an important contribution to the State's quest to develop in a sustainable manner.

As such, staff recommends as follows,

**RECOMMENDATION:**

Based on the preceding analysis, Staff recommends that the Board of Land and Natural Resources APPROVE this Conservation District Use Application (CDUA) MA-3533 for the Kaheawa Wind Power II, LLC wind generation facility at Ukumehame, Lahaina District, Maui, TMK (2) 4-8-001:001 and 3-6-001:014, subject to the following conditions:

1. The applicant shall comply with all applicable statutes, ordinances, rules, regulations, and conditions of the Federal, State, and County governments, and applicable parts of the Hawaii Administrative Rules, Chapter 13-5;

2. The applicant, its successors and assigns, shall indemnify and hold the State of Hawai`i harmless from and against any loss, liability, claim, or demand for property damage, personal injury, and death arising out of any act or omission of the applicant, its successors, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit;

3. The applicant shall obtain appropriate authorization from the department for the occupancy of state lands, if applicable;

4. The applicant shall comply with all applicable Department of Health administrative rules;

5. Any work done or construction to be done on the land shall be initiated within one year of the approval of such use, in accordance with construction plans that have been signed by the Chairperson, and, unless otherwise authorized, shall be completed within three (3) years of the approval. The applicant shall notify the Department in writing when construction activity is initiated and when it is completed;

6. Before proceeding with any work authorized by the Board, the applicant shall submit four copies of the construction and grading plans and specifications to the Chairperson or his authorized representative for approval for consistency with the conditions of the permit and the declarations set forth in the permit application. Three of the copies will be returned to the applicant. Plan approval by the Chairperson does not constitute approval required from other agencies;

7. All representations relative to mitigation set forth in the Environmental Impact Statement and Conservation District Use Application are incorporated as conditions of the permit, including but not limited to:
   a. Limiting fugitive dust emissions in compliance with HAR §11-60.1-33 (e.g. through the use of such measures as regular watering);
   b. Maintaining vegetation-free fire buffers around key facilities;
   c. Implementing control and management initiatives aimed at excluding fireweed propagules on bare ground;
   d. Inspecting off-site sources of fill and gravel and prohibiting the import of materials from sites that are known or likely to contain seeds or propagules of invasive species;
   e. Establishing an inspection station at the staging area to control for the introduction of invasive species;
   f. Monitoring project areas every six months for the first two years after construction for the presence of invasive species;
   g. Following or expanding the KWP I mitigation program regarding minimizing the take of protected species;

8. When provided or required, potable water supply and sanitation facilities shall have the approval of the department of health and the board of water supply;

9. The applicant understands and agrees that this permit does not convey any vested rights or exclusive privilege;

10. In issuing this permit, the Department and Board have relied on the information and data that the applicant has provided in connection with this permit application. If, subsequent to the issuance of this permit, such information and

data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Department may, in addition, institute appropriate legal proceedings;

11. Where any interference, nuisance, or harm may be caused, or hazard established by the use, the applicant shall be required to take the measures to minimize or eliminate the interference, nuisance, harm, or hazard;

12. Cleared areas shall be revegetated, with preference given to using native species, within thirty days unless otherwise provided for in a plan on file with and approved by the department;

13. Should nēnē nests be discovered during construction the applicant will notify DLNR and USFWS, and curtail or modify activities until appropriate measures are taken;

14. Should historic remains such as artifacts, burials or concentration of charcoal be encountered during construction activities, work shall cease immediately in the vicinity of the find, and the find shall be protected from further damage. The contractor shall immediately contact HPD (692-8015), which will assess the significance of the find and recommend an appropriate mitigation measure, if necessary; the applicant will also notify OHA at the same time;

15. The applicant will not initiate construction activities until it has obtained both a Federal Incidental Take Permit and State Incidental Take License.

16. During construction, appropriate mitigation measures shall be implemented to minimize impacts to off-site roadways, utilities, and public facilities

17. The applicant will follow the *Traffic Control Plan* during construction, and the *Maintenance and Monitoring Program* for the project's duration;

18. Other terms and conditions as may be prescribed by the Chairperson; and

19. Failure to comply with any of these conditions shall render this Conservation District Use Permit null and void.

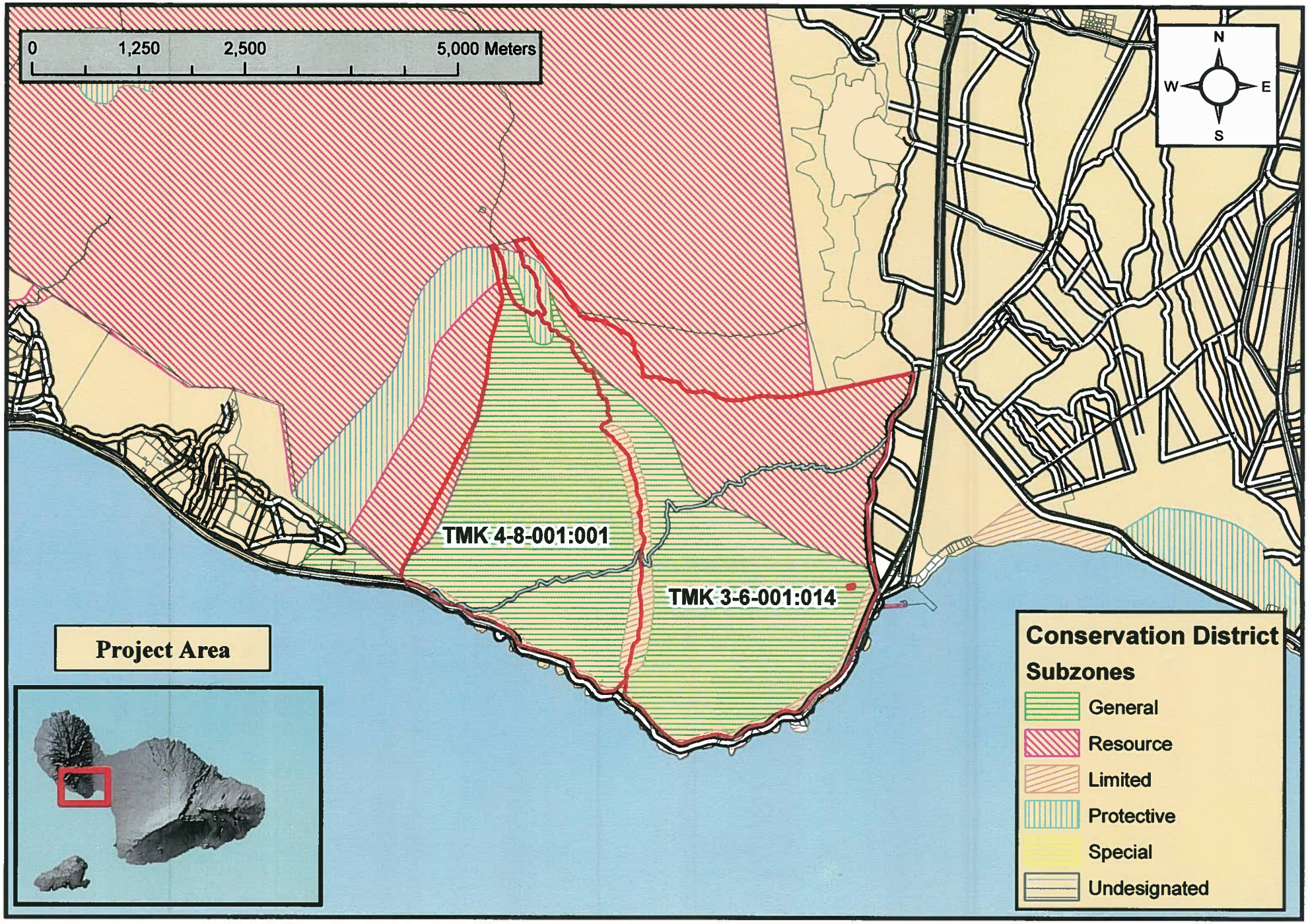
Respectfully submitted,

Michael Cain, Staff Planner
Office of Conservation and Coastal Lands

**Approved for submittal:**

**Laura H. Thielen, Chairperson**
**Board of Land and Natural Resources**

**TMK (2) 4-8-001:001 & 3-6-001:014** **Kaheawa Pastures, Ukumehame, Lahaina, Maui**




*Produced by MC @ OCCL* *July 13, 2010* *All boundaries are approximate*

**Exhibit 1**

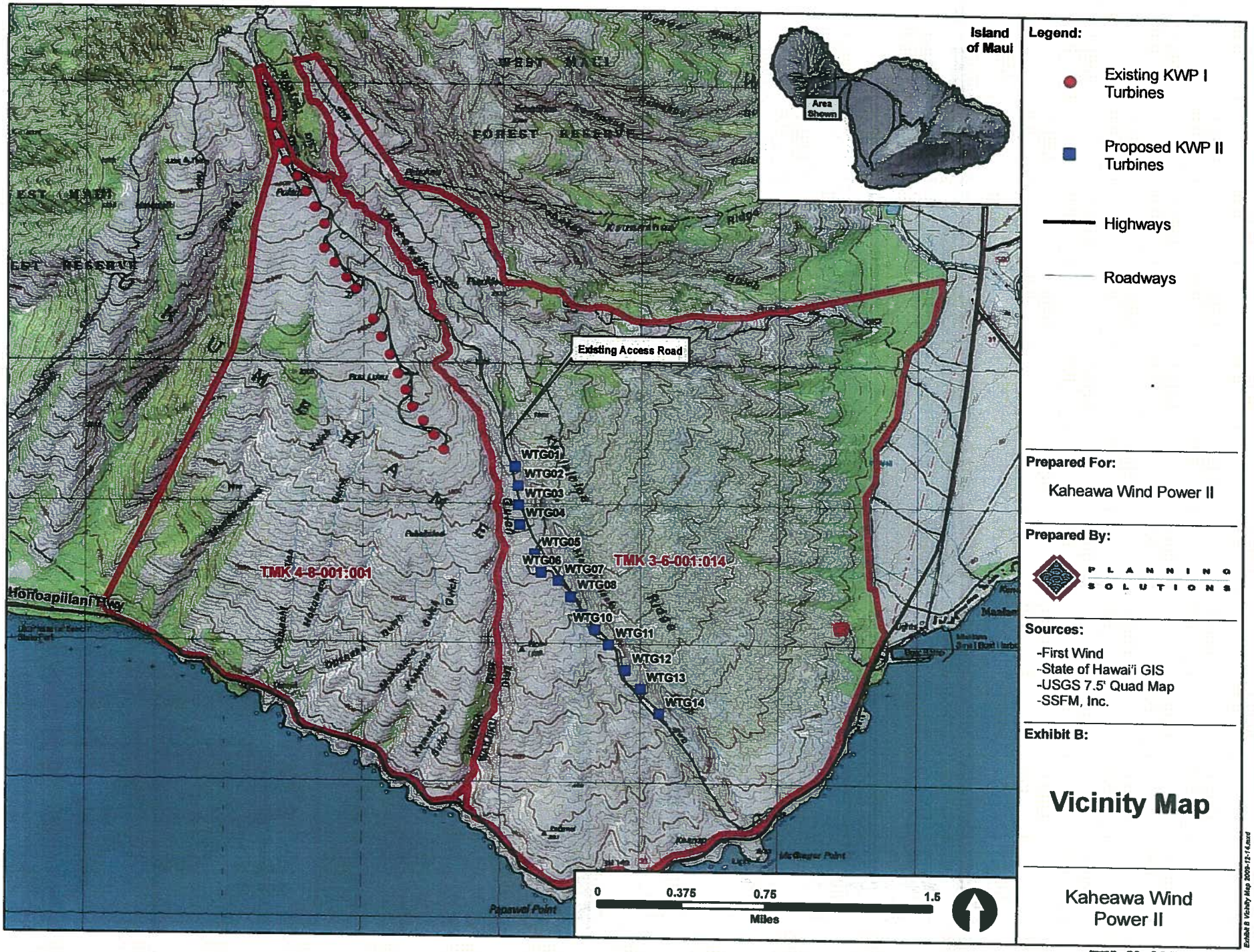
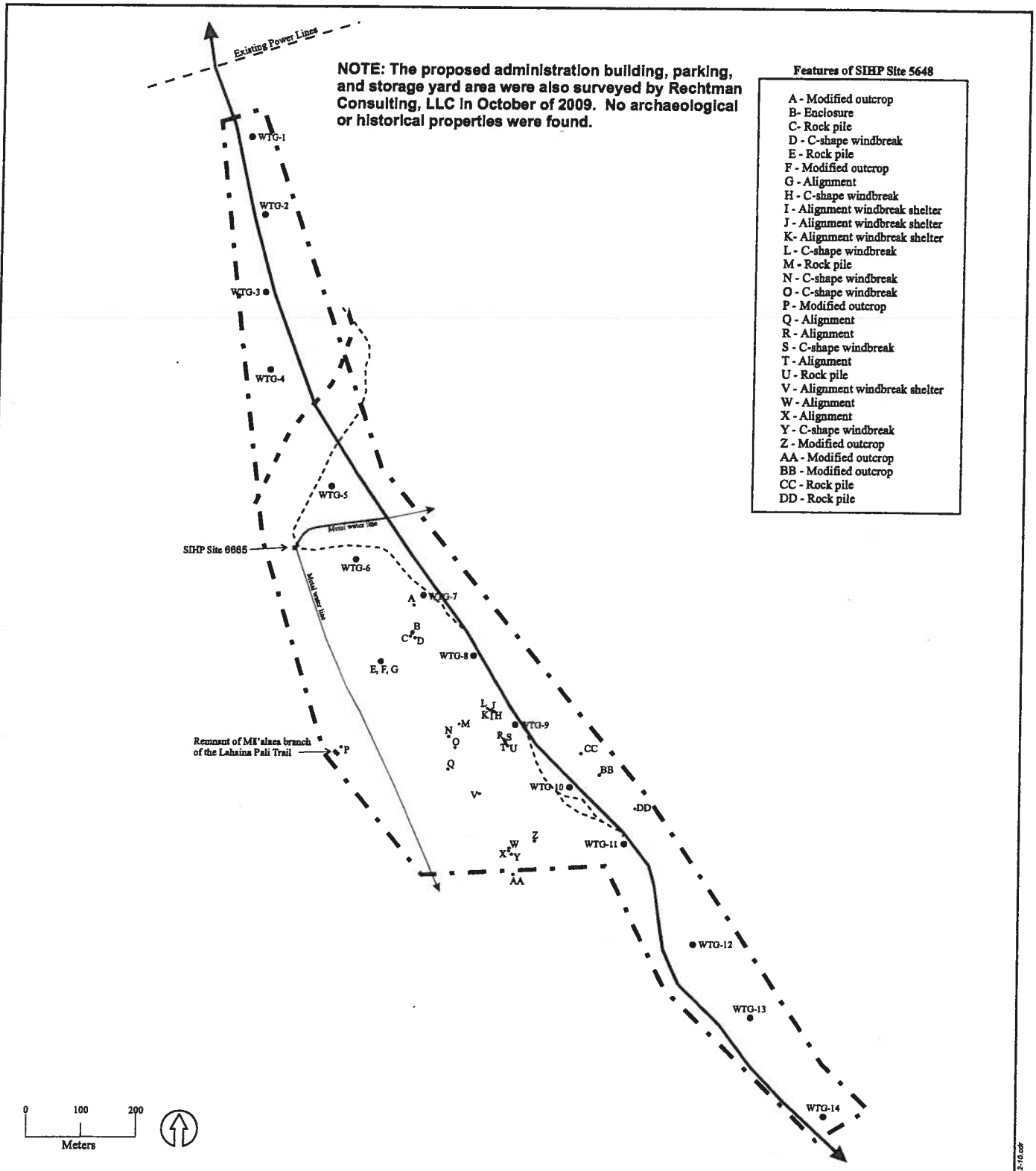

Island of Maui
Area Shown
Legend:
Existing KWP I Turbines
Proposed KWP II Turbines
Highways
Roadways
Existing Access Road
WTG01
WTG02
WTG03
WTG04
WTG05
WTG06
WTG07
WTG08
WTG10
WTG11
WTG12
WTG13
WTG14
TMK 4-8-001:001
TMK 3-6-001:014
Honoapiilani Hwy
Pāpawai Point
McGregor Point
0
0.375
0.75
1.5
Miles
Prepared For:
Kaheawa Wind Power II
Prepared By:
PLANNING SOLUTIONS
Sources:
-First Wind
-State of Hawai'i GIS
-USGS 7.5' Quad Map
-SSFM, Inc.
Exhibit B:
Vicinity Map
Kaheawa Wind Power II

EXHIBIT 2

EXHIBIT 3




**Prepared For:**
Kaheawa Wind Power II

**Prepared By:**
PLANNING SOLUTIONS

**Source:**
Rechtman Consulting, LLC
October, 2009

**Legend:**
- Existing access road
- Old 4WD road
- Lahaina Pali Trail
- Study area boundary
- Proposed wind tower location
- Features of SIHP Site 5648

**Exhibit J:**

# Archaeological Sites in the Project Area

Kaheawa Wind Power II

Exhibit J Archaeological Sites in the KWP II Project Area 2009-12-10.cdr


**Prepared For:**
Kaheawa Wind Power II

**Prepared By:**
PLANNING SOLUTIONS

**Source:**
Kaheawa Wind Power II

**Exhibit C:**

# Aerial Photo of Project Area

Kaheawa Wind Power II

Exhibit C Aerial Photo of Project Area 2009-12-10.cdr

EXHIBIT 4

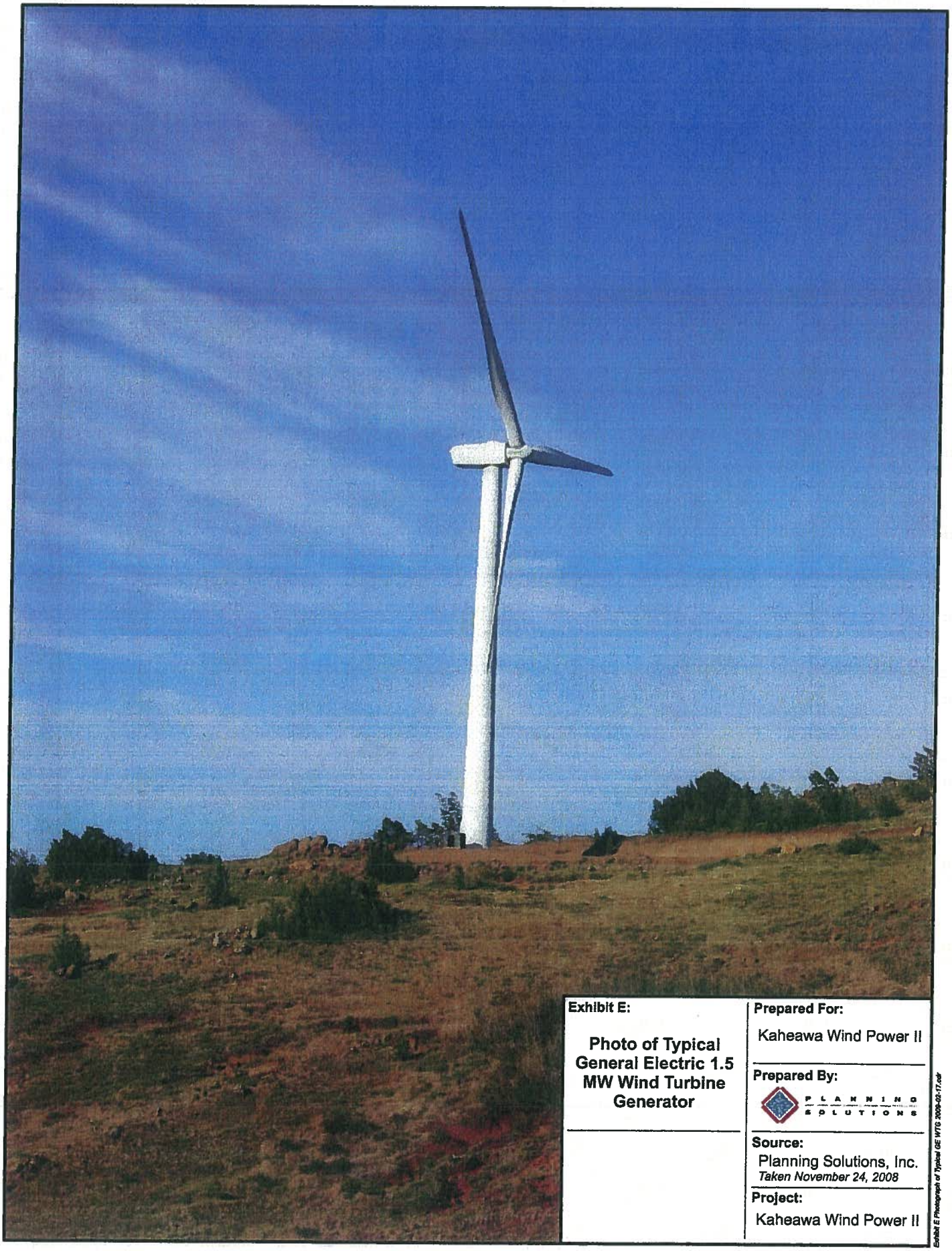


**Exhibit E:**

**Photo of Typical General Electric 1.5 MW Wind Turbine Generator**

**Prepared For:**

Kaheawa Wind Power II

**Prepared By:**

PLANNING SOLUTIONS

**Source:**

Planning Solutions, Inc.
*Taken November 24, 2008*

**Project:**

Kaheawa Wind Power II

Exhibit E Photograph of Typical GE WTG 2009-02-17.cdr

EXHIBIT 5


| Prepared For: | Prepared By: | Source: | Project: | Exhibit K: |
|---|---|---|---|---|
| Kaheawa Wind Power II | PLANNING SOLUTIONS | First Wind | Kaheawa Wind Power II | **Simulated View from Mā'alaea Bay** |

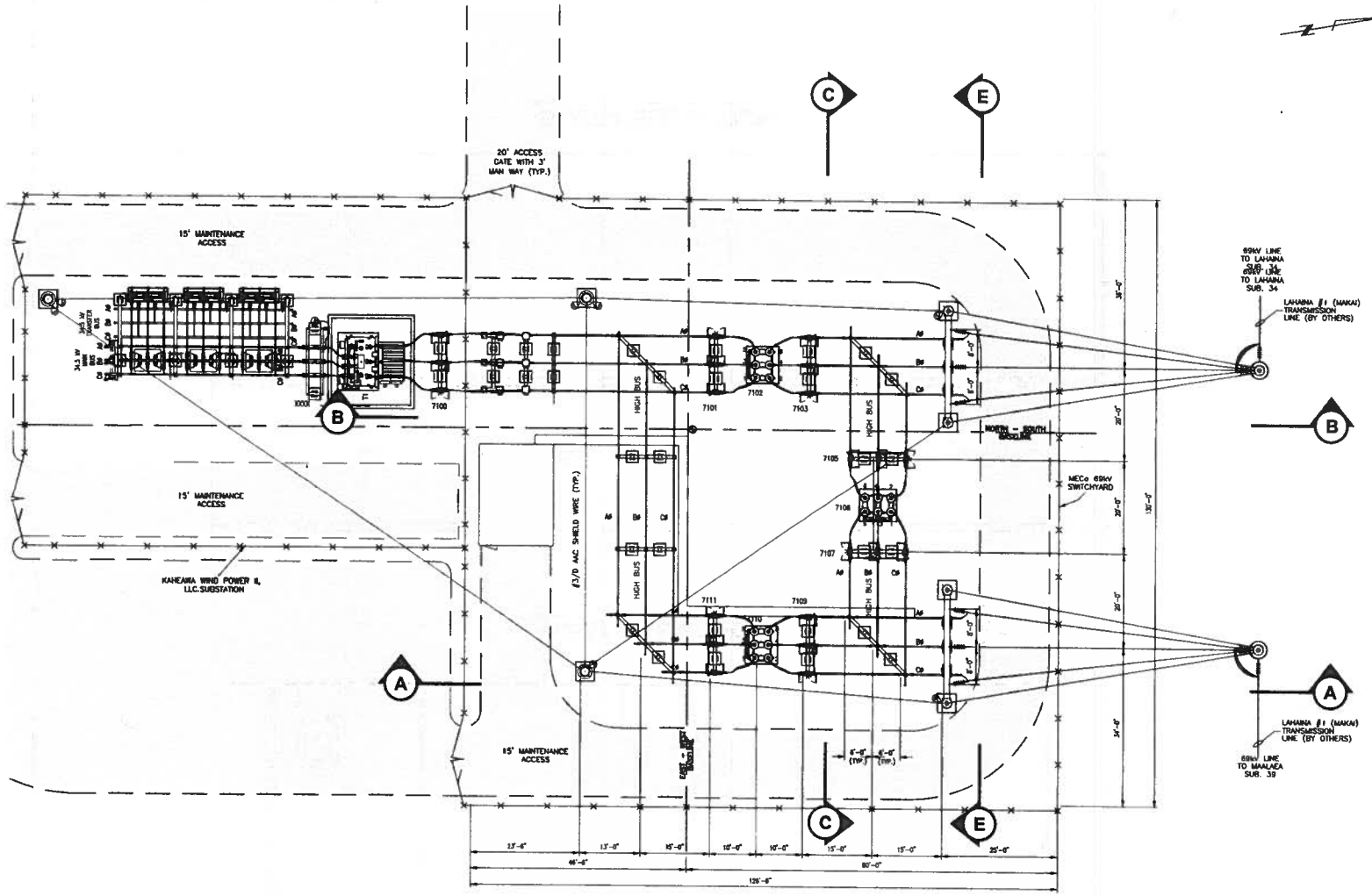
Exhibit K Simulated View from Maalaea Bay 2005-12-10.cdr

EXHIBIT 6


| Prepared For: | Prepared By: | Source: | Project: | Exhibit L: |
|---|---|---|---|---|
| Kaheawa Wind Power II | PLANNING SOLUTIONS | First Wind | Kaheawa Wind Power II | **Simulated View from Wailea** |

Exhibit L Simulated View from Wailea 2009-12-10.pdf

EXHIBIT 7




EX – EXPANSION CONNECTION

F – FIXED CONNECTION

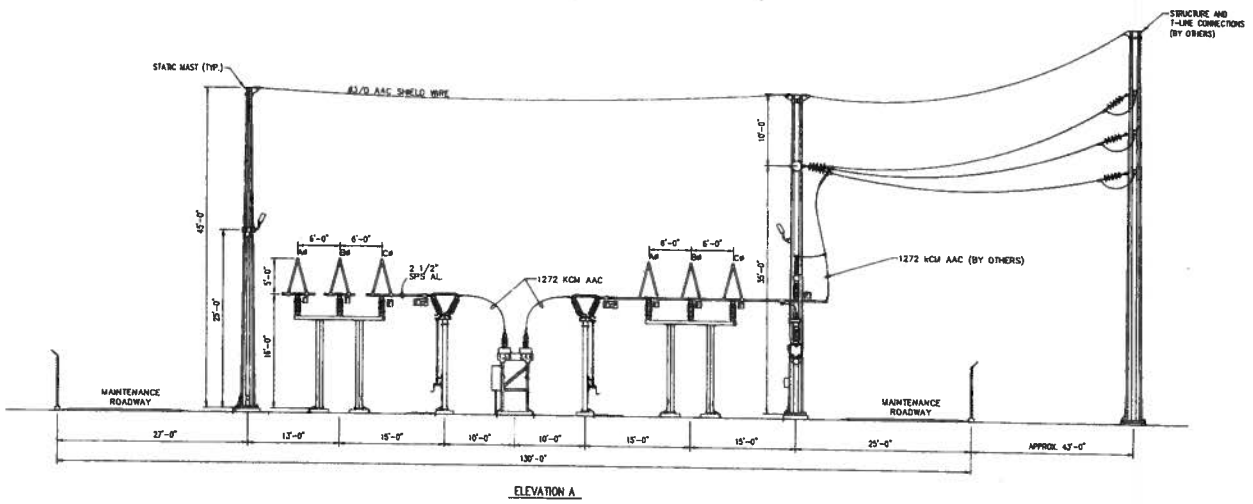
S – SLIP CONNECTION

△ – LIGHTS

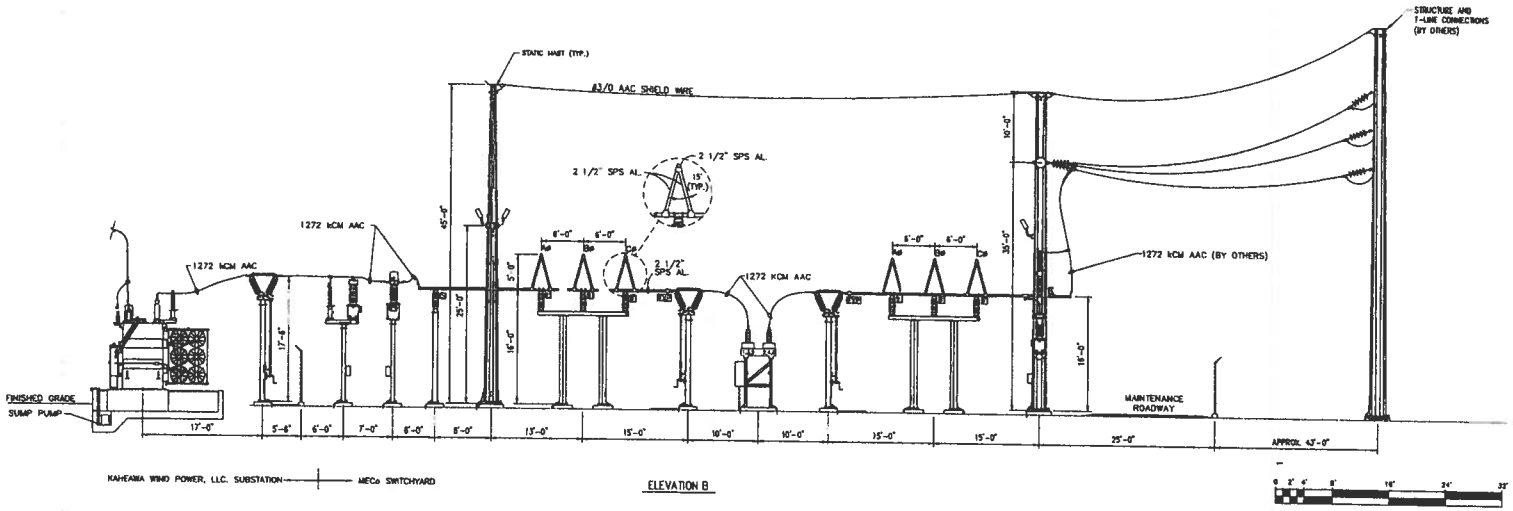
| Prepared For: Prepared For: | Prepared By: | Source: | Project: | Exhibit H: |
|---|---|---|---|---|
| Kaheawa Wind Power II | PLANNING SOLUTIONS | SSFM International | Kaheawa Wind Power II | Electrical Substation: Preliminary Plan View |

Exhibit H Electrical Substation Site Plan 2009-12-21.cdr

EXHIBIT 8




ELEVATION A




ELEVATION B

**Prepared For:**
Kaheawa Wind Power II

**Prepared By:**
PLANNING SOLUTIONS

**Source:**
Electrical Consultants, Inc.
*Dwg. No. KW2-D-P004-1*
*December 21, 2009*

**Legend:**

○ – REFERENCE BILL OF MATERIALS

EX – EXPANSION CONNECTION

F – FIXED CONNECTION

S – SLIP CONNECTION

LIGHTS

**Exhibit I-A:**

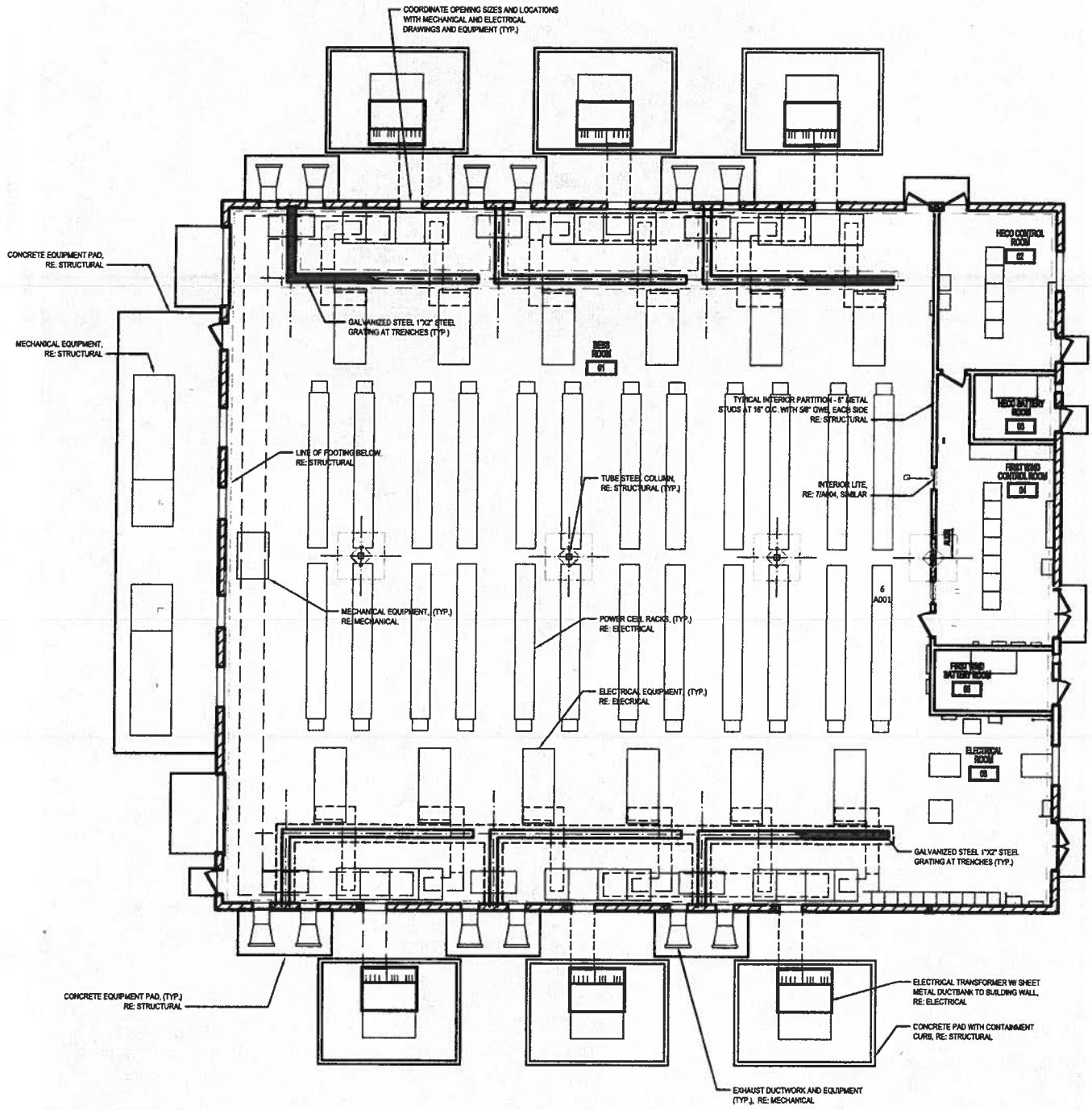
# Electrical Substation: Preliminary Elevation View

Kaheawa Wind Power II

*Exhibit I-A Electrical Substation Elevation Views 2009-12-21.ndf*

EXHIBIT 9

EXHIBIT O

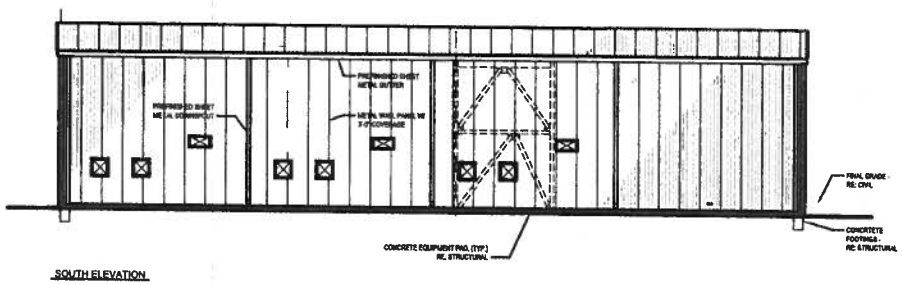



0 8 16 24
Feet

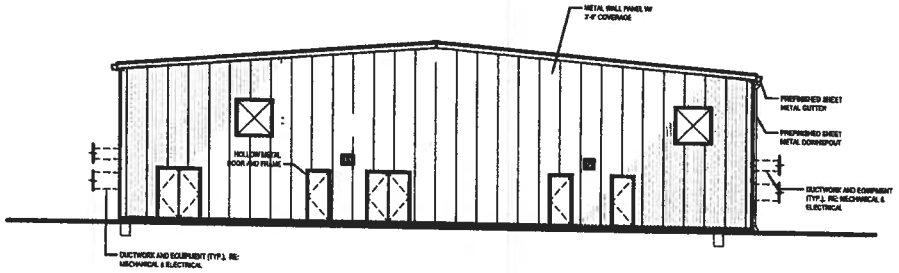
Note: The plan is illustrative. The final design may vary in dimensions and/or contain additional banks of equipment.

| Prepared For: | Prepared By: | Source: | Project: | Exhibit O: |
|---|---|---|---|---|
| Kaheawa Wind Power II | PLANNING SOLUTIONS | First Wind | Kaheawa Wind Power II | BESS Enclosure Floor Plan |

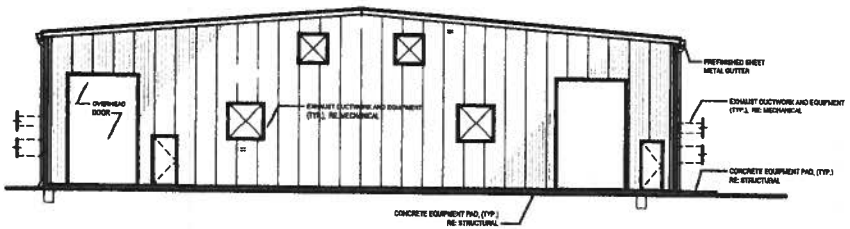
Exhibit O BESS Enclosure Floor Plan 2009-12-16.mxd



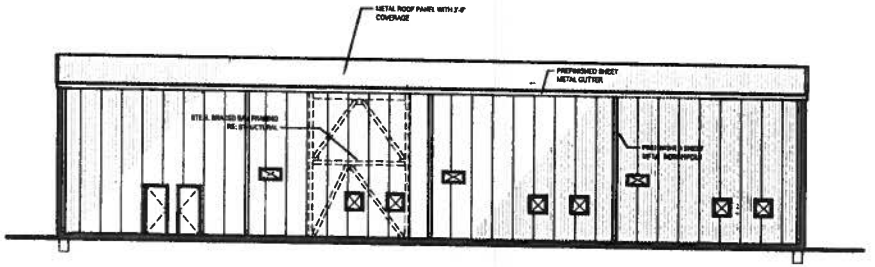

SOUTH ELEVATION




EAST ELEVATION




WEST ELEVATION




NORTH ELEVATION

0 8 16 24
Feet

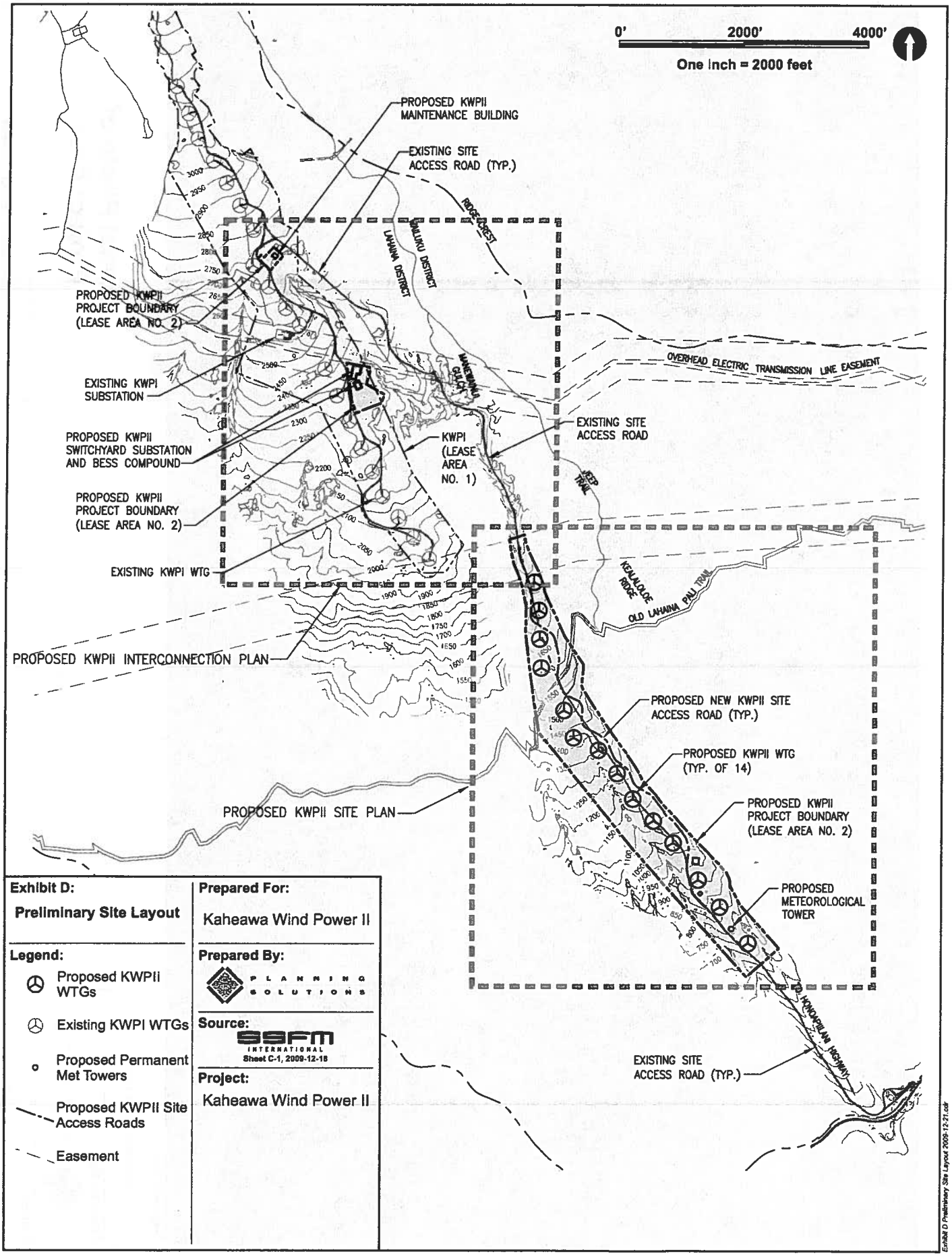
Note: The plan is illustrative. The final design may vary in dimensions and configuration, but total enclosure height will not change.

| Prepared For: | Prepared By: | Source: | Project: | Exhibit P: |
|---|---|---|---|---|
| Kaheawa Wind Power II | PLANNING SOLUTIONS | First Wind | Kaheawa Wind Power II | **BESS Enclosure Elevation** |

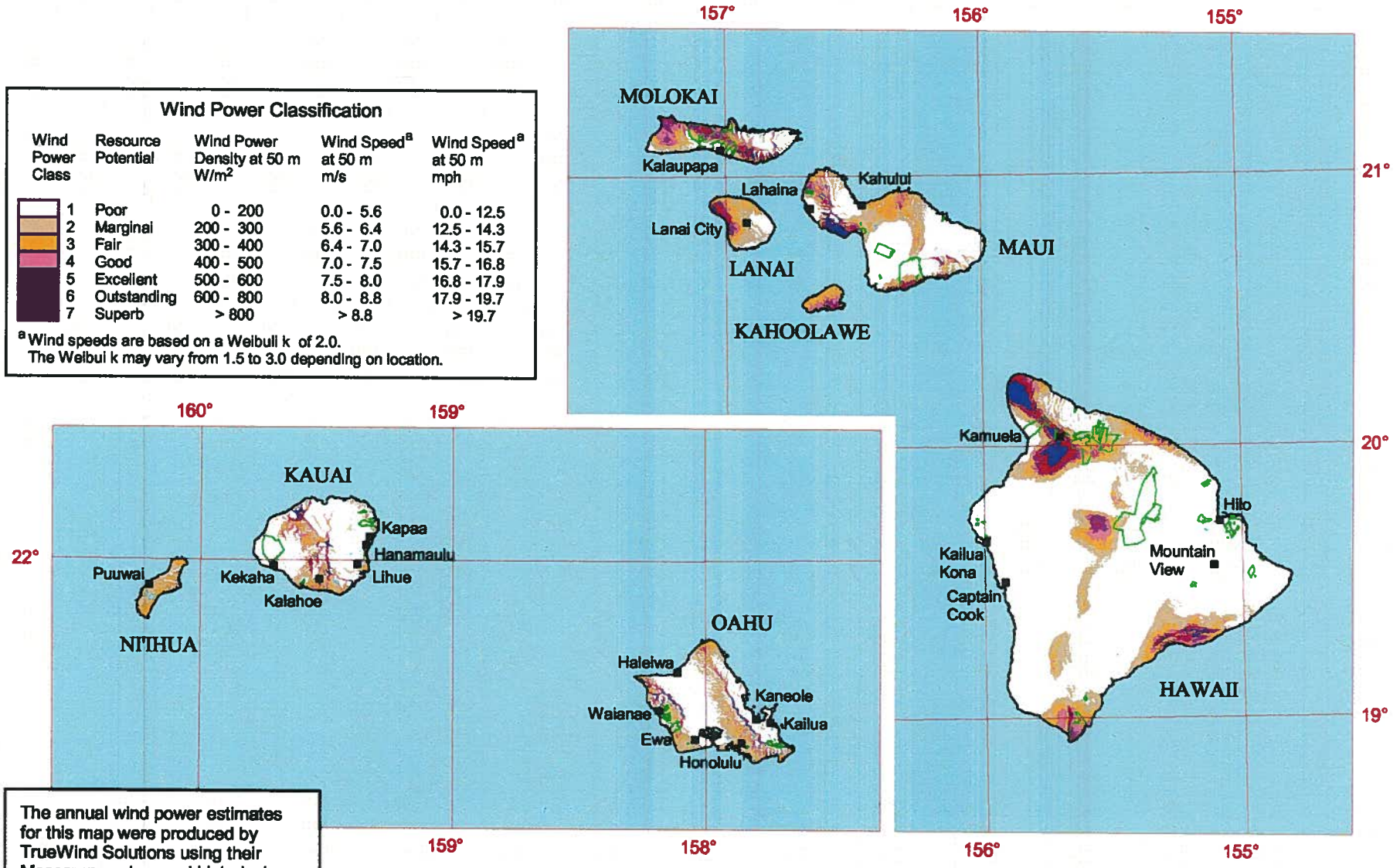
Exhibit P BESS Enclosure Elevation 2009-12-17.cdr

EXHIBIT 11

EXHIBIT 12


0'
2000'
4000'
One Inch = 2000 feet
PROPOSED KWPII MAINTENANCE BUILDING
EXISTING SITE ACCESS ROAD (TYP.)
RIDGE CREST
LAHAINA DISTRICT
WAILUKU DISTRICT
PROPOSED KWPII PROJECT BOUNDARY (LEASE AREA NO. 2)
OVERHEAD ELECTRIC TRANSMISSION LINE EASEMENT
EXISTING KWPI SUBSTATION
HANEHANA GULCH
EXISTING SITE ACCESS ROAD
PROPOSED KWPII SWITCHYARD SUBSTATION AND BESS COMPOUND
KWPI (LEASE AREA NO. 1)
JEEP TRAIL
PROPOSED KWPII PROJECT BOUNDARY (LEASE AREA NO. 2)
EXISTING KWPI WTG
KEAWALOLE RIDGE
OLD LAHAINA PALI TRAIL
PROPOSED KWPII INTERCONNECTION PLAN
PROPOSED NEW KWPII SITE ACCESS ROAD (TYP.)
PROPOSED KWPII WTG (TYP. OF 14)
PROPOSED KWPII SITE PLAN
PROPOSED KWPII PROJECT BOUNDARY (LEASE AREA NO. 2)
PROPOSED METEOROLOGICAL TOWER
HONOAPIILANI HIGHWAY
EXISTING SITE ACCESS ROAD (TYP.)
Exhibit D:
Preliminary Site Layout
Legend:
Proposed KWPII WTGs
Existing KWPI WTGs
Proposed Permanent Met Towers
Proposed KWPII Site Access Roads
Easement
Prepared For:
Kaheawa Wind Power II
Prepared By:
PLANNING SOLUTIONS
Source:
SSFM INTERNATIONAL
Sheet C-1, 2009-12-18
Project:
Kaheawa Wind Power II
Exhibit D Preliminary Site Layout 2009-12-21.cdr

# Hawaii - 50 m Wind Power




## Wind Power Classification

| Wind Power Class | Resource Potential | Wind Power Density at 50 m W/m² | Wind Speed[a] at 50 m m/s | Wind Speed[a] at 50 m mph |
|---|---|---|---|---|
| 1 | Poor | 0 - 200 | 0.0 - 5.6 | 0.0 - 12.5 |
| 2 | Marginal | 200 - 300 | 5.6 - 6.4 | 12.5 - 14.3 |
| 3 | Fair | 300 - 400 | 6.4 - 7.0 | 14.3 - 15.7 |
| 4 | Good | 400 - 500 | 7.0 - 7.5 | 15.7 - 16.8 |
| 5 | Excellent | 500 - 600 | 7.5 - 8.0 | 16.8 - 17.9 |
| 6 | Outstanding | 600 - 800 | 8.0 - 8.8 | 17.9 - 19.7 |
| 7 | Superb | > 800 | > 8.8 | > 19.7 |

[a] Wind speeds are based on a Weibull k of 2.0.
The Weibul k may vary from 1.5 to 3.0 depending on location.

The annual wind power estimates for this map were produced by TrueWind Solutions using their Mesomap system and historical weather data. It has been validated with available surface data by NREL and wind energy meteorological consultants.

Hawaii Homelands

U.S. Department of Energy
National Renewable Energy Laboratory

22-JUL-2004 2.1.1

EXHIBIT 13